

1 **IN THE CLAIMS:**

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3 Clean version of the pending claims:

4  
5 1. A method of using Si-Ge-C in selective etch applications, comprising:  
6 growing one or more layers on a single crystal silicon substrate, at least one of  
7 which is a Si-Ge-C layer, wherein the carbon of the Si-Ge-C layer is an amount from 1  
8 to 10 atomic percent and sufficient to exhibit etch selectivity with respect to the single  
9 crystal silicon substrate and/or one or more of the layers adjacent the Si-Ge-C layer;  
10 and

11 etching with a liquid etchant, the Si-Ge-C layer and the single crystal silicon  
12 substrate and/or one or more of the layers adjacent the Si-Ge-C layer.

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14 49. The method of claim 1, wherein the Si-Ge-C layer etches slower than the  
15 one or more adjacent layers.

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17 50. The method of claim 1, wherein the Si-Ge-C layer etches slower than the  
18 single crystal silicon substrate.

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20 51. The method of claim 1, wherein the Si-Ge-C layer etches faster than the one  
21 or more adjacent layers.

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23 52. The method of claim 1, wherein the Si-Ge-C layer etches faster than the  
24 single crystal silicon substrate.

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26 53. The method of claim 1, wherein the etching includes applying an etchant  
27 selected from the group of KOH and HNA.

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2 54. A method of using Si-Ge-C in selective etch applications in conjunction with  
3 a single crystal substrate, comprising:

4 growing one or more epitaxial layers sequentially, starting at the single crystal  
5 substrate surface, wherein at least one of the epitaxial layers comprises Si-Ge-C,  
6 wherein the carbon of the Si-Ge-C layer is from 1 to 5 atomic percent; and

7 etching with a liquid etchant, the Si-Ge-C layer and the single crystal substrate  
8 and/or one or more of the epitaxial layers adjacent the Si-Ge-C layer.

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10 55. The method of claim 54, wherein the Si-Ge-C layer etches slower than the  
11 one or more adjacent epitaxial layers.

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13 56. The method of claim 54, wherein the Si-Ge-C layer etches slower than the  
14 single crystal substrate.

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16 ~~57. The method of claim 54, wherein the Si-Ge-C layer etches faster than the~~  
17 ~~one or more adjacent epitaxial layers.~~

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19 58. The method of claim 54, wherein the Si-Ge-C layer etches faster than the  
20 single crystal substrate.

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22 59. The method of claim 54, 55, 56, 57, or 58, wherein the single crystal  
23 substrate is a material selected from the group of silicon, silicon-germanium, and  
24 germanium.

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26 60. The method of claim 54, wherein the etching includes applying an etchant  
27 selected from the group of KOH and HNA.

1           61. A method of using Si-Ge-C in selective etch applications in conjunction with  
2 a substrate, comprising:

3           growing one or more layers sequentially, starting at the substrate, wherein at  
4 least one of the layers comprises Si-Ge-C, wherein the carbon of the Si-Ge-C layer is  
5 from 1 to 10 atomic percent; and

6           etching with a liquid etchant, the Si-Ge-C layer and one or more layers adjacent  
7 to the Si-Ge-C layer and/or the substrate.

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9           62. The method of claim 61, wherein the Si-Ge-C layer etches slower than the  
10 one or more adjacent layers.

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12           63. The method of claim 61, wherein the Si-Ge-C layer etches slower than the  
13 substrate.

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15           64. The method of claim 61, wherein the Si-Ge-C layer etches faster than the  
16 one or more adjacent layers.

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18           65. The method of claim 61, wherein the Si-Ge-C layer etches faster than the  
19 substrate.

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21           66. The method of claim 61, 62, 63, 64, or 65, wherein the substrate is a  
22 material selected from the group of silicon, silicon-germanium, and germanium.

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24           67. The method of claim 61, wherein the etching includes applying an etchant  
25 selected from the group of KOH and HNA.

1  
2 68. A method of using Si-Ge-C in selective etch applications, comprising:  
3 growing one or more layers on a single crystal silicon substrate, at least one of  
4 which is a Si-Ge-C layer, wherein the carbon of the Si-Ge-C layer is in an amount from  
5 1 to 10 atomic percent and sufficient to exhibit etch selectivity with respect to the single  
6 crystal silicon substrate and/or one or more of the layers adjacent the Si-Ge-C layer;  
7 and  
8 etching with a liquid etchant, the Si-Ge-C layer and the single crystal silicon  
9 substrate and/or one or more of the layers adjacent the Si-Ge-C layer wherein the Si-  
10 Ge-C layer etches slower than the one or more adjacent layers.

11  
12 69. A method of using Si-Ge-C in selective etch applications, comprising:  
13 growing one or more layers on a single crystal silicon substrate, at least one of  
14 which is a Si-Ge-C layer, wherein the carbon of the Si-Ge-C layer is in an amount from  
15 1 to 10 atomic percent and sufficient to exhibit etch selectivity with respect to the single  
16 crystal silicon substrate and/or one or more of the layers adjacent the Si-Ge-C layer;  
17 and  
18 etching with a liquid etchant, the Si-Ge-C layer and the single crystal silicon  
19 substrate and/or one or more of the layers adjacent the Si-Ge-C layer wherein the Si-  
20 Ge-C layer etches faster than the one or more adjacent layers.

21  
22 70. A method of using Si-Ge-C in selective etch applications in conjunction with  
23 a single crystal substrate, comprising:  
24 growing one or more epitaxial layers sequentially, starting at the single crystal  
25 substrate surface, wherein at least one of the epitaxial layers comprises Si-Ge-C,  
26 wherein the carbon of the Si-Ge-C layer is up to 5 atomic percent; and  
27 etching with a liquid etchant, the Si-Ge-C layer and the single crystal substrate  
28 and/or one or more of the epitaxial layers adjacent the Si-Ge-C layer wherein the Si-Ge-  
29 C layer etches slower than the one or more adjacent epitaxial layers.  
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1           71. A method of using Si-Ge-C in selective etch applications in conjunction with  
2 a single crystal substrate, comprising:  
3           growing one or more epitaxial layers sequentially, starting at the single crystal  
4 substrate surface, wherein at least one of the epitaxial layers comprises Si-Ge-C,  
5 wherein the carbon of the Si-Ge-C layer is up to 5 atomic percent; and  
6           etching with a liquid etchant, the Si-Ge-C layer and the single crystal substrate  
7 and/or one or more of the epitaxial layers adjacent the Si-Ge-C layer wherein the Si-Ge-  
8 C layer etches faster than the one or more adjacent epitaxial layers.

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10           72. A method of using Si-Ge-C in selective etch applications in conjunction with  
11 a substrate, comprising:  
12           growing one or more layers sequentially, starting at the substrate, wherein at  
13 least one of the layers comprises Si-Ge-C, wherein the carbon of the Si-Ge-C layer is  
14 up to 10 atomic percent; and  
15           etching with a liquid etchant, the Si-Ge-C layer and one or more layers adjacent  
16 to the Si-Ge-C layer and/or the substrate wherein the Si-Ge-C layer etches slower than  
17 the one or more adjacent layers.

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19           73. A method of using Si-Ge-C in selective etch applications in conjunction with  
20 a substrate, comprising:  
21           growing one or more layers sequentially, starting at the substrate, wherein at  
22 least one of the layers comprises Si-Ge-C, wherein the carbon of the Si-Ge-C layer is  
23 up to 10 atomic percent; and  
24           etching with a liquid etchant, the Si-Ge-C layer and one or more layers adjacent  
25 to the Si-Ge-C layer and/or the substrate wherein the Si-Ge-C layer etches faster than  
26 the one or more adjacent layers.